REMARKS

STATUS OF THE CLAIMS

Claims 1-10 and 15-17 are pending with entry of this amendment, claims 11-14 being cancelled and claims 15-17 being added herein. Claims 1-2, 4-7 and 9-10 are amended herein. These amendments introduce no new matter and support is replete throughout the specification. These amendments are made without prejudice and are not to be construed as abandonment of the previously claimed subject matter or agreement with any objection or rejection of record.

With respect to claims 1-2, 4-7, 9-10 and 15, support for a polymorphism in linkage disequilibrium with DRD4-7R other than the L1 or L2 polymorphism can be found throughout the specification. For example, see the specification at paragraph [0070].

With respect to claims 2 and 7, support for a polymorphism in greater linkage disequilibrium with DRD4-7R than DRD4-4R can be found, e.g., at paragraph [0070].

With respect to claims 4-5 and 9-10, support for a polymorphism in LD with DRD4-7R located within 2.7 kb and 350 base pairs from the DRD4 exon 3 VNTR can be found, e.g., at paragraph [0060].

With respect to claims 15-17, support for amplification of one or multiple polymorphisms can be found, e.g., at paragraph [0060].

Applicants submit that no new matter has been added to the application by way of the above Amendment. Accordingly, entry of the Amendment is respectfully requested.

The action rejected all of the claims under 35 U.S.C. §§101, 102 and/or 112. Further, the action included objections to the specification and claims. Applicants traverse all rejections and objections, to the extent that they are applied to the amended claims.

AMENDMENTS TO THE SPECIFICATION (ACTION ITEMS 3 AND 5)

Action Item 3

The action objected to the presentation of priority information. Under the "CROSS REFERENCE TO RELATED APPLICATIONS" section prior to the first

paragraph, the filing dates of the related applications have been added. The objection should be withdrawn.

Action Item 5

The action objected to the title of the application. The title of the application has been changed to "REAGENTS FOR DIAGNOSIS OF ATTENTION DEFICIT HYPERACIVITY DISORDER" to reflect that claims directed to reagents, but not methods, were elected pursuant to the restriction requirement of October 15, 2007. The objection should be withdrawn.

CLAIM OBJECTIONS (ACTION ITEM 6)

Claims 1 and 6 were objected to for including the term "DRDR." The claims are amended herein to indicate that the invention is directed to reagents comprising polynucleotides comprising polymorphisms in linkage disequilibrium with DRD4-7R. The term "DRDR" has been removed from the claims, and the objection should be withdrawn.

THE CLAIMS, AS AMENDED, ARE DIRECTED TO STATUTORY SUBJECT MATTER (ACTION ITEM 7)

Claims 1-10 were rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. To the extent that these rejections are applied to the amended claims, Applicants traverse.

Claims directed to "a polynucleotide" have been amended to make clear that the claimed polynucleotides are isolated. Accordingly, the rejection should be withdrawn.

THE CLAIMS, AS AMENDED, ARE DEFINITE (ACTION ITEM 8)

Claims 1-10 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. To the extent that these rejections are applied to the amended claims, Applicants traverse.

The action alleges that claims 1-10 are indefinite for including the term "DRDR" and the phrases "corresponding to" and "closely linked." As noted above, the term

DRDR has been removed from the claims. Claims including the phrase "corresponding to" or "closely linked" have either been amended to remove the phrase or withdrawn from consideration. The rejection should be withdrawn.

DING IS NOT A PUBLICATION BY ANOTHER (ACTION ITEM 9)

Claims 1-10 were rejected under 35 U.S.C. §102(a) as allegedly anticipated by Ding et al. (PNAS, Vol. 99, No. 1, pages 309-314, published online December 26, 2001). Applicants traverse.

As evidenced by the attached "Katz" style declarations (*see, In re Katz* 215 USPQ 14 (CCPA 1982)), Ding et al. is not a publication by another as required by 35 USC § 102(a). That is, as specified, e.g., by MPEP 715.01(c), a 35 USC § 102(a) reference can be overcome by providing a declaration pursuant to 37 § CFR 1.132, stating that an apparently 35 USC § 102(a)-style reference is a disclosure on behalf of the inventors. Such declarations are provided herewith. The declarations establishe that, to the extent the reference teaches Applicants' claimed invention, the relevant reference is a publication on behalf of the inventors and, therefore, cannot present a statutory bar under 35 USC § 102(a). Accordingly, all rejections that rely on Ding et al. must be withdrawn.

THE CLAIMS ARE FREE OF FODOR (ACTION ITEM 10)

Claims 1-10 were rejected under 35 U.S.C. 102(b) as allegedly anticipated by Fodor (U.S. Publication 2001/0053519). To the extent that these rejections are applied to the amended claims, Applicants traverse.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. MPEP §2131, citing Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

The action alleges that Fodor inherently teaches polynucleotides comprising polymorphisms in LD with the DRD4-7R allele. The claims, as amended, require an isolated polynucleotide comprising a polymorphism in LD with DRD4-7R. Fodor relates to an oligonucleotide array that includes all possible 10-mers (1,048,576 different oligonucleotide

types) confined on a single substrate "the size of a dime." See Fodor, paragraph [0124]. A polynucleotide among more than 1 million different oligonucleotide types situated on a single substrate does not constitute an isolated polynucleotide, especially when the substrate is the size of a dime. Because Fodor does not teach an isolated polynucleotide – an element of the claims as amended – Fodor does not anticipate claims 1-10 and the rejection should be withdrawn.

Further, the array of Fodor is not a "reagent useful for diagnosing ADHD." Even if Fodor's array indeed comprises a polynucleotide comprising a polymorphism as set forth in the claimed invention (which Applicants do not concede it does), an array of random 10-mers is not configured for SNP genotyping. On average, the human genome (3 billion base pairs) includes approximately 300 10-base pair sequences from different locations of the genome that will precisely match the sequence of any particular random 10-mer on Fodor's array. The oligonucleotides of this array do not constitute unique sequences that could be used for diagnostic purposes, and therefore are not reagents useful for diagnosing ADHD as required by the claimed invention. Because Fodor lacks this element, it does not anticipate the claimed invention, and the rejection should be withdrawn.

THE CLAIMS ARE FREE OF OKUYAMA (ACTION ITEM 11)

Claims 1-10 were rejected under 35 U.S.C. 102(b) as allegedly anticipated by Okuyama et al. (Biochemical and Biophysical Research Communications, Vol. 258, pages 292-295, 1999). To the extent that these rejections are applied to the amended claims, Applicants traverse.

The action alleges that the primers of Okuyama correspond to a polymorphism in LD with an allele of DRD4. The action further alleges that the PCR-restriction fragments of Okuyama comprise a polymorphic allele which is in LD with the DRD4-7R allele. Okuyama relates to PCR amplification of the -521 C>T polymorphism in the 5'-promoter region of DRD4. Okuyama found a "weak, if present" LD between this polymorphism and the exon 3 VNTR polymorphism. See Okuyama, p. 294 (emphasis added). Okuyama is equivocal as to whether LD actually exists between the -521 C>T polymorphism and the exon 3 VNTR polymorphism. Further, even if LD does exist between

the –521 C>T polymorphism and the exon 3 VNTR (which Applicants do not concede that it does), Okuyama does not teach an isolated polynucleotide comprising a polymorphism in LD with any particular allele of DRD4, let alone the DRD4-7R allele as required by Applicants' claims as amended. Because Okuyama does not teach a polymorphism in LD with the exon 3 VNTR, let alone a polymorphism in LD with DRD4-7R, Okuyama does not anticipate the claimed invention and the rejection must be withdrawn.

THE CLAIMS ARE FREE OF SEAMAN ET AL (1999) (ACTION ITEM 12)

Claims 1-10 were rejected under 35 U.S.C. 102(b) as allegedly anticipated by Seaman et al. (Am. J. Med. Genetics, Vol. 88, pages 705-709, 1999). To the extent that these rejections are applied to the amended claims, Applicants traverse.

Seaman (1999) relates to PCR amplification of a 120 bp polymorphic tandem duplication situated 1.2 kb upstream of the DRD4 initiation codon. This is the polymorphism referred to as the "L1" polymorphism in the present application. See, e.g., Figure 1. In Applicants' amended claim 1, the L1 polymorphism is excluded from the claimed subject matter. Seaman (1999) does not teach other polymorphisms in LD with DRD4-7R. Accordingly, Seaman (1999) does not anticipate the claimed invention and the rejection must be withdrawn.

THE CLAIMS ARE FREE OF SEAMAN ET AL (2000) (ACTION ITEM 13)

Claims 1-10 were rejected under 35 U.S.C. 102(b) as allegedly anticipated by Seaman et al. (J. Experimental Zoology, Vol. 288, pages 32-38, 2000). To the extent that these rejections are applied to the amended claims, Applicants respectfully traverse.

Seaman (2000) relates to PCR amplification of the 12 bp polymorphic tandem repeat sequence in DRD4 exon 1. This is the polymorphism referred to as the "L2" polymorphism in the present application. See, e.g., Figure 1. In Applicants' amended claim 1, the L2 polymorphism is excluded from the claimed subject matter. Seaman (2000) does not teach other polymorphisms in LD with DRD4-7R. Accordingly, Seaman (2000) does not anticipate the claimed invention and the rejection must be withdrawn.

CONCLUSION

In view of the foregoing, Applicants believes all claims now pending in this application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the claims are deemed not to be in condition for allowance after consideration of this Response, a telephone interview with the Examiner is hereby requested. Please telephone the undersigned at (510) 337-7871 to schedule an interview.

The Commissioner is hereby authorized to charge any additional fees associated with this paper or during the pendency of this application, or credit any overpayment, to Deposit Account No. 50-0893.

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Respectfully submitted,

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Reg. No: 61,197

Attachments:

1) A transmittal sheet;
2) A fee transmittal sheet;
3) A petition to extend the period of response for 3 months;
4) Declaration of Dr. James Swanson;
5) Declaration Dr. Robert Moyzis; and
6) A receipt indication postcard.